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(54) **AUTHENTICATIONS INTEGRATED INTO A BOOT CODE IMAGE**

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(51) **Int. Cl.**

G06F 15/177	(2006.01)
G06F 21/57	(2013.01)
G06F 9/44	(2006.01)
H04L 29/06	(2006.01)
H04L 29/08	(2006.01)

(52) **U.S. Cl.**

CPC ***G06F 21/572*** (2013.01); ***G06F 9/4416*** (2013.01); ***G06F 21/575*** (2013.01); ***H04L 29/06*** (2013.01); ***H04L 67/34*** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

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(57) **ABSTRACT**

A method, computer program product and system for storing or updating authentications, e.g., passwords, in a boot code image, i.e., binary executable boot code, stored within a Read Only Memory (ROM), e.g., flash ROM, of a terminal from a remote central site. An authentication may be stored in the boot code image in a terminal from a central site by creating a file comprising a boot code image storing the authentication at the central site and then storing the created file in ROM in the terminal. The file may be downloaded from a server at the central site to the terminal. An authentication in the boot code image in a terminal may be updated remotely from a central site by updating the file associated with the boot code image, i.e., updating the authentication, at the central site and then downloading the updated file to the terminal.

10 Claims, 4 Drawing Sheets

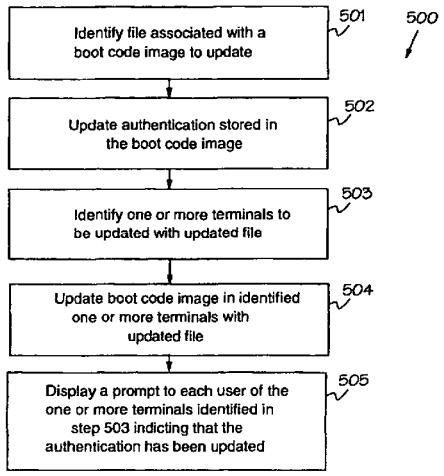

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FIG. 1

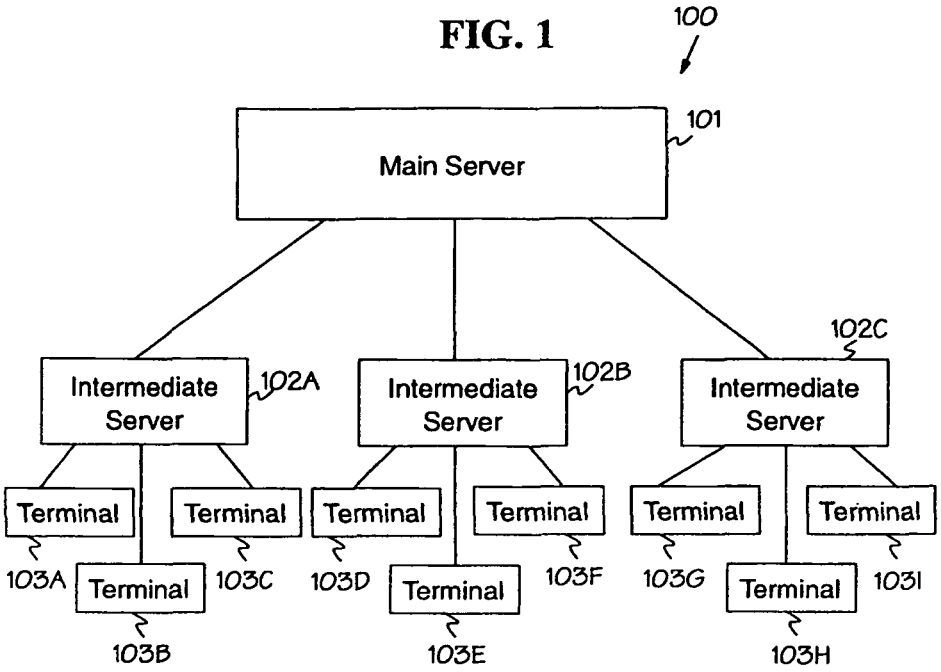
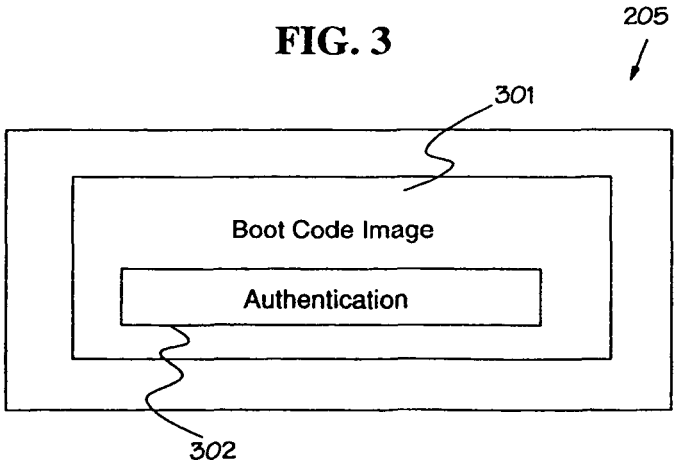

100
Main Server
101
Intermediate Server
102A
Intermediate Server
102B
Intermediate Server
102C
Terminal
103A
Terminal
103B
Terminal
103C
Terminal
103D
Terminal
103E
Terminal
103F
Terminal
103G
Terminal
103H
Terminal
103I

FIG. 3


205
301
Boot Code Image
Authentication
302

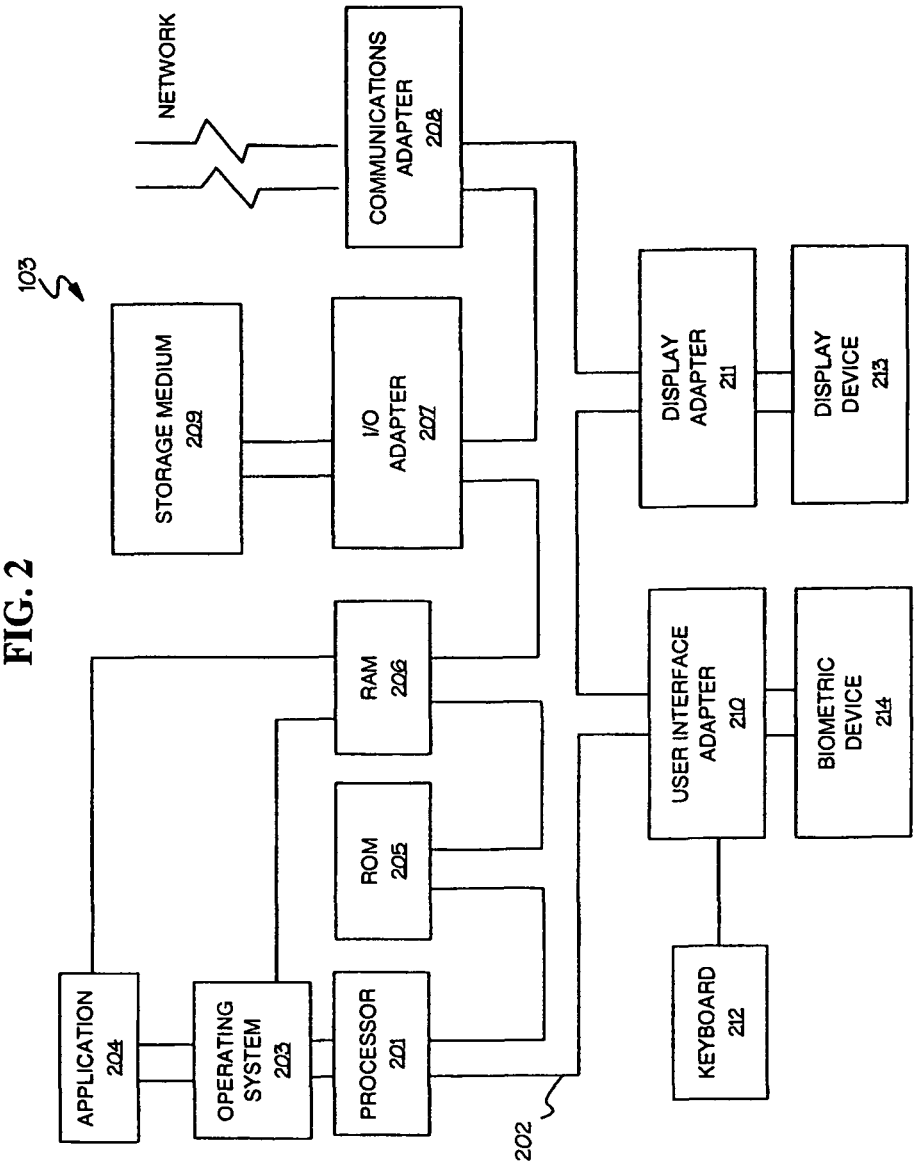

103
NETWORK
COMMUNICATIONS ADAPTER 208
STORAGE MEDIUM 209
I/O ADAPTER 207
DISPLAY ADAPTER 211
DISPLAY DEVICE 213
RAM 206
ROM 205
USER INTERFACE ADAPTER 210
BIOMETRIC DEVICE 214
APPLICATION 204
OPERATING SYSTEM 203
PROCESSOR 201
KEYBOARD 212
202

FIG. 2

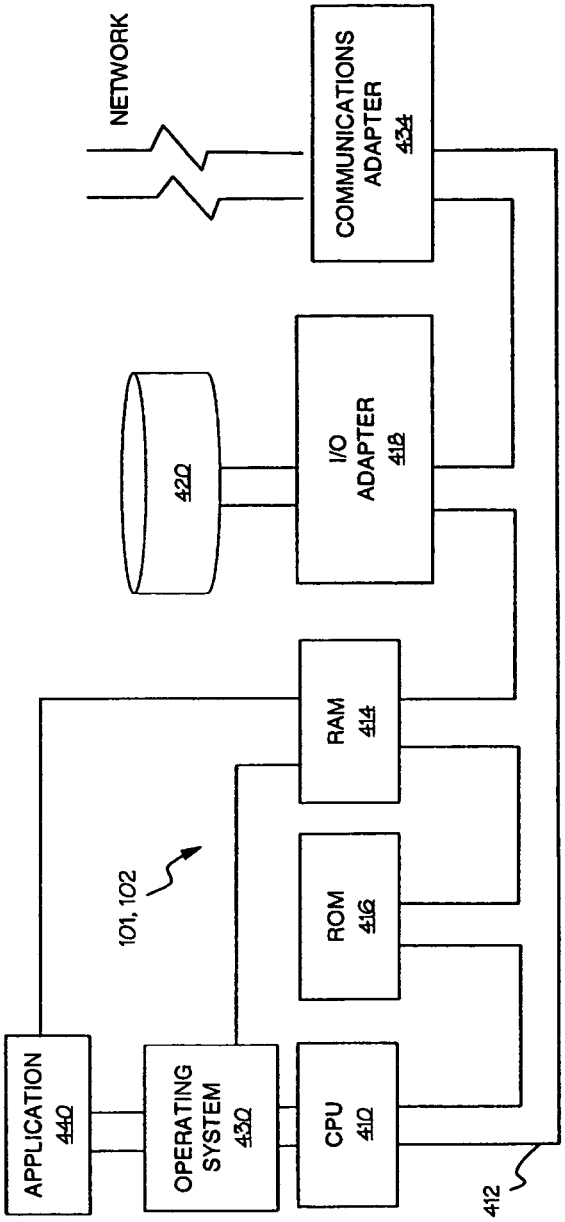

APPLICATION
440
OPERATING SYSTEM
430
101, 102
CPU
410
ROM
416
RAM
414
420
I/O ADAPTER
418
NETWORK
COMMUNICATIONS ADAPTER
434
412

FIG. 4

FIG. 5

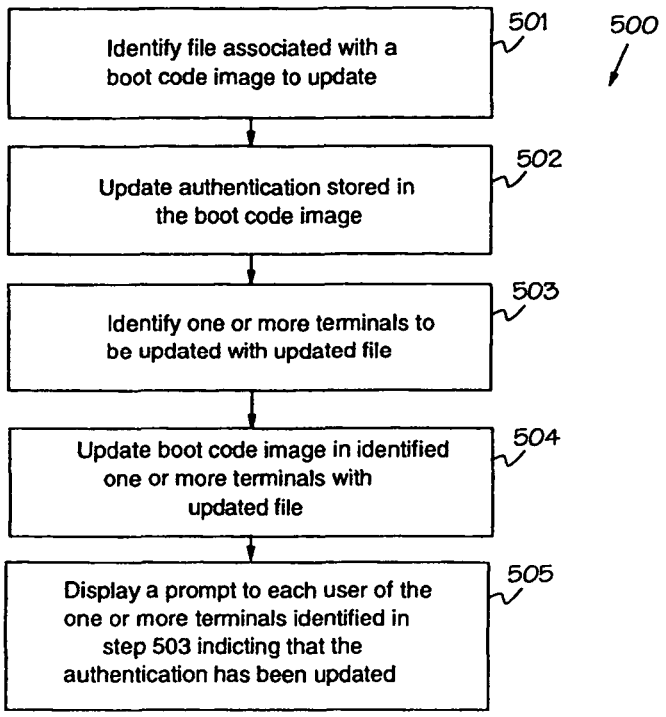
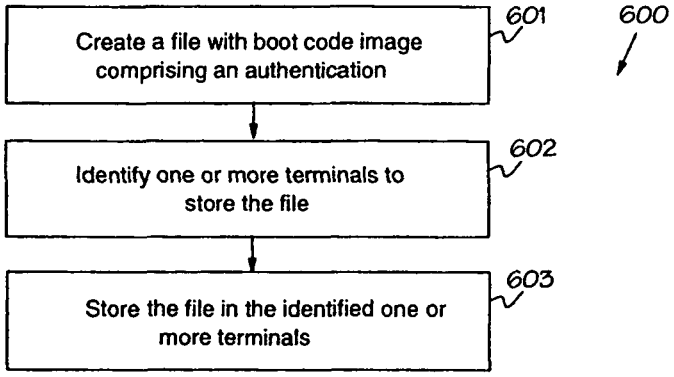

Identify file associated with a boot code image to update
501
500
Update authentication stored in the boot code image
502
Identify one or more terminals to be updated with updated file
503
Update boot code image in identified one or more terminals with updated file
504
Display a prompt to each user of the one or more terminals identified in step 503 indicting that the authentication has been updated
505

FIG. 6


Create a file with boot code image comprising an authentication
601
600
Identify one or more terminals to store the file
602
Store the file in the identified one or more terminals
603

AUTHENTICATIONS INTEGRATED INTO A BOOT CODE IMAGE

CROSS REFERENCE TO RELATED APPLICATIONS

The present application is a continuation application of U.S. patent application Ser. No. 10/001,697, which was filed on Oct. 31, 2001 now U.S. Pat. No. 6,993,650, which is assigned to the assignee of the present invention.

TECHNICAL FIELD

The present invention relates to the field of enterprise networks, and more particularly to storing and updating authentications, e.g., passwords, authentication numbers, in a boot code image, i.e., binary executable boot code, in each terminal in an enterprise network from a central site by system administrators.

BACKGROUND INFORMATION

An enterprise network may refer to a geographically dispersed network under the jurisdiction of one organization. For example, an enterprise network may comprise a main server at a central location, e.g., headquarters, coupled to a plurality of intermediate servers where each intermediate server may be located at a geographically separate location from the main server. Each intermediate server may represent a particular location, e.g., store, of an organization. Each intermediate server may then be coupled to a plurality of terminals, e.g., cash registers, personal computers, at that particular location.

Each terminal may be equipped with a BIOS (Basic Input/Output System) based password program. A BIOS based password program may run before control of the terminal is given to any disk based software. This may prevent an unauthorized user from accessing data by starting the terminal from a floppy disk or using other means to change the disk based software. Each time the terminal is activated, the BIOS based password program may issue a password prompt that appears on the monitor. If the correct password is not entered, the system will not boot. It is noted that the BIOS based password program may further request a separate password primarily for system administrators to access the setup options, e.g., BIOS setup options, of the terminal. If the correct password is not entered, access to the setup options will be denied.

Typically, passwords such as passwords to protect unauthorized users from booting the system and accessing setup options are stored in non-volatile Random Access Memory (RAM). By storing passwords in non-volatile RAM, a user at a terminal may be able to change or modify the password which may not be desirable. Users may accidentally or maliciously change the password which may result in untoward consequences such as not being able to boot up the terminal if the user cannot remember the new password. Furthermore, if the user at the terminal forgets the new password, the system administrative staff at the central site, e.g., headquarters, may have difficulty assisting the user as they may not know the new password since the user and not the system administrators at the central site changed the password. Furthermore, in an enterprise network environment, it may be difficult, cumbersome and time consuming to update passwords stored in terminals as each terminal may have different passwords from which to update which may not be known by the system administrators.

It would therefore be desirable to store authentications, e.g., password to protect unauthorized users from booting the system, password to protect unauthorized users from accessing setup options, an authentication number to permit installation of software, within a boot code image, i.e., binary executable boot code, at a terminal, e.g., cash register, personal computer, stored in Read Only Memory (ROM), e.g., flash ROM, thereby preventing the user at the terminal from tampering authentications. It would further be desirable to store or update the authentications stored in the boot code image in each terminal from a remote central site, e.g., headquarters, thereby allowing system administrators at the central site the ability to know the current authentication installed at the terminal.

SUMMARY

The problems outlined above may at least in part be solved in some embodiments by storing an authentication, e.g., password to protect unauthorized users from booting the system, password to protect unauthorized users from accessing setup options, an authentication number to permit installation of software, within a boot code image, i.e., binary executable boot code such as BIOS binary executable code, stored in Read Only Memory (ROM), e.g., flash ROM, in a terminal. By storing an authentication in the boot code image stored in ROM, a user at the terminal may be prevented from tampering with the authentication. Furthermore, the authentication in the boot code image may be stored or updated from a remote central site as described in greater detail below, thereby allowing system administrators at the central site to have knowledge of the current authentication installed at the terminal.

In one embodiment of the present invention, a method for updating authentications, e.g., passwords, authentication numbers, within a boot code image, i.e., binary executable boot code, stored in ROM, e.g., flash ROM, in a terminal from a remote central site may comprise the step of identifying a file with a boot code image comprising an authentication to be updated in one or more terminals. Each terminal may comprise a boot code image where a portion of the boot code image may be allocated for storing an authentication. Upon identifying a file with the boot code image to be updated in one or more terminals, the authentication stored in that boot code image may be updated, e.g., password may be changed. One or more terminals coupled to a server at the central site may then be identified as storing an authentication in their boot code image that needs to be updated. The authentication in the boot code image in each of the one or more terminals identified may then be updated.

In another embodiment of the present invention, a method for storing authentications, e.g., authentication number to install software, within a boot code image, i.e., binary executable boot code, in ROM, e.g., flash ROM, in a terminal from a remote central site may comprise the step of creating a file comprising a boot code image where the boot code image may comprise an authentication, e.g., authentication number to install software. The file may be created at a central site geographically separate from the location of one or more terminals to receive the file. One or more terminals coupled to the server at the central site may then be identified to store the file created. The file created may then be saved in ROM, e.g., flash ROM, in each of the one or more terminals identified. In one embodiment, the file may be downloaded from the server at the central site to each of the one or more terminals identified via a network, e.g., LAN, WAN. In another embodiment, the file may be stored on a storage medium, e.g., mag-

netic disk, compact disc, which may then be loaded onto the one or more terminals identified.

The foregoing has outlined rather broadly the features and technical advantages of one or more embodiments of the present invention in order that the detailed description of the invention that follows may be better understood. Additional features and advantages of the invention will be described hereinafter which form the subject of the claims of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

A better understanding of the present invention can be obtained when the following detailed description is considered in conjunction with the following drawings, in which:

FIG. **1** illustrates an embodiment of the present invention of an enterprise network system;

FIG. **2** illustrates an embodiment of the present invention of a terminal in an enterprise network;

FIG. **3** illustrates an embodiment of the present invention of a memory in a terminal configured to store a boot code image comprising an authentication;

FIG. **4** illustrates an embodiment of the present invention of a server in an enterprise network;

FIG. **5** is a flowchart of a method for updating authentications within a boot code image in a terminal from a central site; and

FIG. **6** is a flowchart of a method for storing authentications in the boot code image in a terminal from a central site.

DETAILED DESCRIPTION

FIG. **1**—Enterprise System

FIG. **1** illustrates an embodiment of the present invention of an enterprise system **100**. As stated in the Background Information section, an enterprise system may refer to a geographically dispersed network under the jurisdiction of one organization. Enterprise system **100** may comprise a main server **101** located at a central site, e.g., headquarters. Main server **101** may be coupled to one or more intermediate servers **102**A-C located at a geographically separate location from main server **101**. Intermediate servers **102**A-C may collectively or individually be referred to as intermediate servers **102** or intermediate server **102**, respectively. Each intermediate server **102** may be coupled to a plurality of terminals, e.g., cash registers, personal computers, at the location serviced by that intermediate server **102**. For example, intermediate server **102**A may be coupled to terminals **103**A-C. Intermediate server **102**B may be coupled to terminals **103**D-F. Intermediate server **102**C may be coupled to terminals **103**G-I. Terminals **103**A-H may collectively or individually be referred to as terminals **103** or terminal **103**, respectively. It is noted that enterprise system **100** may comprise any number of main servers **101** coupled to any number of intermediate servers **102** coupled to any number of terminals **103**. It is further noted that the connections between main server **101** and intermediate servers **102** and the connections between intermediate servers **102** and terminals **103** may be any medium type, e.g., wireless, wired. It is further noted that enterprise system **100** may comprise a greater or fewer number of hierarchical levels of servers than illustrated and that FIG. **1** is illustrative.

FIG. **2**—Hardware Configuration of Terminal

FIG. **2** illustrates an embodiment of the present invention of terminal **103**. Terminal **103** may comprise a processor **201** coupled to various other components by a bus **202**. An operating system **203** may run on processor **201** and provide control as well as coordinate the function of the various components of FIG. **2**. Application **204** may run in conjunction with operating system **203** which implements the various functions to be performed by application **204**. Terminal **103** may further comprise a read only memory (ROM) **205**, e.g., flash ROM, coupled to bus **202** and may include a boot code image, i.e., binary executable boot code, that controls certain basic functions of terminal **103** as illustrated in FIG. **3**.

Referring to FIG. **3**, FIG. **3** illustrates an embodiment of the present invention of ROM **205**, e.g., flash ROM. ROM **205** may store boot code image **301**, i.e., binary executable boot code such as BIOS binary executable code. A portion of boot code image **301** may be allocated for storing authentication **302**, e.g., password to protect unauthorized users from booting the system, password to protect unauthorized users from accessing setup options, an authentication number to permit installation of software, an authentication to permit operation of software. In one embodiment, authentication **302** may be encrypted. Authentication **302** may be encrypted using various encryption schemes that would be recognized by a person of ordinary skill in the art and that such embodiments employing such schemes would fall within the scope of the present invention. It is noted that boot cod image **301** may be configured to store more than one authentication **302** and that FIG. **3** is illustrative.

Referring to FIG. **2**, Random Access Memory (RAM) **206**, Input/Output (I/O) adapter **207** and communications adapter **208** may also coupled to bus **202**. It should be noted that software components including operating system **203** and application **204** may be loaded into RAM **206** which may be terminal's **103** main memory. I/O adapter **207** may be an integrated drive electronics ("IDE") adapter that communicates with a storage medium **209**, e.g., disk drive. Communications adapter **208** may interconnect bus **202** with an outside network enabling terminal **103** to communicate with main server **101**, intermediate server **102** via a Local Area Network (LAN), e.g., Ethernet, Token Ring, ARCnet, or a Wide Area Network (WAN), e.g., Internet.

Terminal **103** may further comprise Input/Output (I/O) devices that may be coupled to bus **202** via a user interface adapter **210** and a display adapter **211**. Keyboard **212** and biometric device **214**, e.g., fingerprint reader, retinal scanner, may be interconnected to bus **202** through user interface adapter **210**. A display device **213** may be coupled to bus **202** through display adapter **211**. In this manner, a user may be capable of inputting to terminal **103** through keyboard **212** and receiving output from terminal **103** via display device **213**. Biometric device **214** may be used to authenticate the user at terminal **103** thereby establishing that the user is authorized to access that particular terminal **103**. It is noted that there are numerous types of input devices and display devices known to those skilled in the art and thus need not be described in detail herein.

Implementations of the invention include implementations as a terminal programmed to execute the method or methods described herein, and as a computer program product. According to the terminal implementation, sets of instructions for executing the method or methods may be resident in the random access memory **206** of one or more terminal systems configured generally as described above. Until required by the terminal, the set of instructions may be stored as a computer program product in another memory, for example, in storage medium **209** (which may include a removable memory such as an optical disk or floppy disk for eventual use in the storage medium **209**).

FIG. **4**—Hardware Configuration of Servers

FIG. **4** illustrates an embodiment of the present invention of main server **101**, intermediate server **102**. Referring to FIG. **4**, main server **101**, intermediate server **102** may comprise a central processing unit (CPU) **410** coupled to various other components by system bus **412**. An operating system **430** runs on CPU **410** and provides control and coordinates the function of the various components of FIG. **4**. An application **440** in accordance with the principles of the present invention may run in conjunction with operating system **430** and provide calls to operating system **430** where the calls implement the various functions or services to be performed by application **440**. An application **440** of main server **101** may include, for example, a program for updating authentications **302**, e.g., passwords, authentication numbers, within boot code image **301**, i.e., binary executable boot code, stored in ROM **205** at terminal **103** from a remote central site as described in the description of FIG. **5**, a program for storing authentications **302**, e.g., passwords, authentication numbers, within boot code image **301** stored in ROM **205** at terminal **103** from a remote central site as described in FIG. **6**. Read only memory (ROM) **416** may be coupled to system bus **412** and include a basic input/output system ("BIOS") that controls certain basic functions of main server **101**, intermediate server **102**. Random access memory (RAM) **414**, disk adapter **418** and communications adapter **434** may also be coupled to system bus **412**. It should be noted that software components including operating system **430** and application **440** may be loaded into RAM **414** which is the computer system's main memory. Disk adapter **418** may be a small computer system interface ("SCSI") adapter that communicates with disk units **420**, e.g., disk drive. It is noted that the program of the present invention that updates authentications **302**, e.g., passwords, authentication numbers, within boot code image **301**, i.e., binary executable boot code, stored in ROM **205** at terminal **103** from a remote central site as described in the description of FIG. **5**, may reside in disk unit **420** or application **440**. It is further noted that the program of the present invention that stores authentications **302**, e.g., passwords, authentication numbers, within boot code image **301**, i.e., binary executable boot code, stored in ROM **205** at terminal **103** from a remote central site as described in the description of FIG. **6**, may reside in disk unit **420** or application **440**. Communications adapter **434** interconnects bus **412** with an outside network enabling main server **101**, intermediate server **102** to communicate with terminal **103** via a Local Area Network (LAN), e.g., Ethernet, Token Ring, ARCnet, or a Wide Area Network (WAN), e.g., Internet.

Implementations of the invention include implementations as a computer system programmed to execute the method or methods described herein, and as a computer program product. According to the computer system implementations, sets of instructions for executing the method or methods are resident in the random access memory **414** of one or more computer systems configured generally as described above. Until required by main server **101**, intermediate server **102**, the set of instructions may be stored as a computer program product in another computer memory, for example, in disk drive **420** (which may include a removable memory such as an optical disk or floppy disk for eventual use in disk drive **420**). Furthermore, the computer program product can also be stored at another computer and transmitted when desired to the user's workstation by a network or by an external network such as the Internet. One skilled in the art would appreciate that the physical storage of the sets of instructions physically changes the medium upon which it is stored so that the medium carries computer readable information. The change may be electrical, magnetic, chemical or some other physical change.

FIG. **5**—Method for Updating Authentications within a Boot Code Image Stored in ROM in a Terminal from a Remote Central Site

FIG. **5** is a flowchart of one embodiment of the present invention of a method **500** for updating authentications **302**, e.g., passwords, authentication numbers, within boot code image **301**, i.e., binary executable boot code such as BIOS binary executable code, stored in ROM, e.g., flash ROM, at terminal **103** from a remote central site. As stated in the Background Information section, passwords such as passwords to protect unauthorized users from booting the system and accessing setup options are typically stored in non-volatile Random Access Memory (RAM) in the terminal. By storing passwords in non-volatile RAM, a user at a terminal may be able to change or modify the password which may not be desirable. Users may accidentally or maliciously change the password which may result in disastrous consequences such as not being able to boot up the terminal if the user cannot remember the new password. Furthermore, if the user at the terminal forgets the new password, the system administrative staff at the central site, e.g., headquarters, may have difficulty assisting the user as they may not know the new password since the user and not the system administrators at the central site changed the password. Furthermore, in an enterprise network environment, it may be difficult, cumbersome and time consuming to update passwords stored in terminals as each terminal may have different passwords from which to update which may not be known by the system administrators. It would therefore be desirable to store authentications, e.g., password to protect unauthorized users from booting the system, password to protect unauthorized users from accessing setup options, an authentication number to permit installation of software, an authentication to permit operation of software, within a boot code image, i.e., binary executable boot code, stored in ROM, e.g., flash ROM, at a terminal, e.g., cash register, personal computer, thereby preventing the user at the terminal from tampering authentications. It would further be desirable to update the authentications stored in the boot code image in each terminal from a central site, e.g., headquarters, thereby allowing system administrators the ability to know the current authentication installed at the terminal. Method **500** is a method for addressing the above concerns.

In step **501**, a file associated with boot code image **301** (FIG. **3**), i.e., binary executable boot code such as BIOS binary executable code, to be updated in one or more terminals **103** (FIG. **2**) may be identified at a central site geographically separate from the location of the one or more terminals **103** to be updated as described below. As stated above, each terminal **103** coupled to main server **101** may comprise a boot code image **301**. A portion of boot code image **301** may be allocated for storing authentication **302**, e.g., password to protect unauthorized users from booting the system, password to protect unauthorized users from accessing setup options, an authentication number to permit installation of software, an authentication to permit operation of software. In order to update authentication **302** in one or more terminals **103** coupled to main server **101**, a file associated with boot code image **301** to be updated in the one or more terminals **103** may be identified at a central site in step **501**.

In step **502**, authentication **302**, e.g., password to protect unauthorized users from booting the system, password to protect unauthorized users from accessing setup options, authentication number to permit installation of software, an authentication to permit operation of software, in boot code image **301** in the file identified in step **501** may be updated. In one embodiment, authentication **302** in the file associated

with boot code image **103** identified in step **501** may be updated without recompiling the entire file associated with boot code image **103**. That is, the bytes in the file associated boot code image **103** storing authentication **302** may be modified without modifying any other bytes of the file.

In step **503**, one or more terminals **103** coupled to main server **101** may be identified as storing an authentication **302** in their boot code image **301** that needs to be updated.

In step **504**, authentication **302** in boot code image **301** in each of the one or more terminals **103** identified in step **503** may be updated with authentication **302** updated in step **502**. In one embodiment, the updated file may be downloaded from main server **101** to each of the one or more terminals **103** identified in step **503** via a network, e.g., LAN, WAN. In one embodiment, the entire boot code image **301** stored in ROM **205** (FIG. **2**), e.g., flash ROM, in each of the one or more terminals **103** identified in step **503** may be updated. In another embodiment, a utility program may be attached to the updated file that erases and writes to selected portions of boot code image **301** stored in ROM **205**, e.g., flash ROM, such as the portion storing authentication **302**. Subsequently, the portion storing authentication **302** in boot code image **301** stored in ROM **205** in each of the one or more terminals **103** identified in step **503** may be erased and written with the updated authentication **302**. In another embodiment, the updated file may be stored on a storage medium, e.g., magnetic disk, compact disc, which may then be loaded onto the one or more terminals **103** identified in step **503**. In one embodiment, the entire boot code image **301** stored in ROM **205** (FIG. **2**), e.g., flash ROM, in each of the one or more terminals **103** identified in step **503** may be updated. In another embodiment, a utility program may be attached to the updated file that erases and writes to selected portions of boot code image **301** stored in ROM **205** such as the portion storing authentication **302** thereby installing the updated authentication **302**.

In step **505**, a prompt may be displayed to each user of the one or more terminals **103** identified in step **503** indicating that authentication **302** has been updated. In one embodiment, boot code image **301** may comprise code to indicate to the user of terminal **103** that authentication **302** has been updated upon updating authentication **302**. For example, authentication **302** in boot code image **301** may be updated during the evening when terminal **103** is deactivated. When the user of terminal **103** activates terminal **103**, the user may receive a prompt indicating that authentication **302**, e.g., password, has been updated and to enter the new authentication **302**, e.g., password. Upon the user receiving the new authentication **302** from a person in authority, the user may enter the new authentication **302** thereby allowing the user to boot the system or to access setup options or to install software, etc.

By storing authentication **302** in boot code image **301** in ROM **205**, e.g., flash ROM, in each terminal **103**, e.g., cash register, personal computer, in an enterprise network environment, a user at terminal **103** may be prevented from tampering authentication **302**. Furthermore, by updating authentication **302** stored in boot code image **301** from a remote central site, e.g., headquarters, system administrators at the central site may have knowledge of the current authentication installed at terminal **103**.

It is noted that method **500** may be executed in a different order presented and that the order presented in the discussion of FIG. **5** is illustrative. It is further noted that certain steps may be executed almost concurrently. It is further noted that steps **501-504** may be implemented by a program in main server **101** residing in application **440** (FIG. **4**) or disk unit **420** (FIG. **4**).

FIG. **6**—Method for Storing Authentications within a Boot Code Image Stored in ROM in a Terminal from a Remote Central Site

FIG. **6** is a flowchart of one embodiment of the present invention of a method **600** for storing authentications **302**, e.g., authentication number to install software, within boot code image **301**, i.e., binary executable boot code such as BIOS binary executable code, stored in ROM **205** at terminal **103** from a remote central site.

In step **601**, a file may be created comprising a boot code image **301** (FIG. **3**), i.e., binary executable boot code, where boot code image **301** may comprise an authentication **302**, e.g., authentication number to install software. The file may be created at a central site geographically separate from the location of one or more terminals **103** to receive the file as described below.

In step **602**, one or more terminals **103** coupled to main server **101** may be identified to store the file created in step **601**.

In step **603**, the file may be saved in ROM **205** (FIG. **2**), e.g., flash ROM, in the one or more terminals **103** identified in step **602**. In one embodiment, the file may be downloaded from main server **101** to each of the one or more terminals **103** identified in step **602** via a network, e.g., LAN, WAN. In another embodiment, the file may be stored on a storage medium, e.g., magnetic disk, compact disc, which may then be loaded onto the one or more terminals **103** identified in step **602**.

It is noted that method **600** may be executed in a different order presented and that the order presented in the discussion of FIG. **6** is illustrative. It is further noted that certain steps may be executed almost concurrently.

Although the system, method and computer program product are described in connection with several embodiments, it is not intended to be limited to the specific forms set forth herein, but on the contrary, it is intended to cover such alternatives, modifications and equivalents, as can be reasonably included within the spirit and scope of the invention as defined by the appended claims. It is noted that the headings are used only for organizational purposes and not meant to limit the scope of the description or claims.

The invention claimed is:

1. A method for updating authentications in terminals from a central site comprising the steps of:

identifying a file associated with a binary executable boot code to update, wherein said binary executable boot code in said file comprises a first authentication;

updating said first authentication in said binary executable boot code in said file to become a second authentication;

identifying one or more terminals to be updated with said updated file, wherein each of said one or more terminals comprises a flash memory configured to store said binary executable boot code comprising said first authentication; and

updating said binary executable boot code in each of said one or more identified terminals with said updated file, wherein, upon updating said binary executable boot code in each of said one or more identified terminals with said updated file, each of said one or more identified terminals stores said binary executable boot code comprising said second authentication in said flash memory;

wherein said file associated with said binary executable boot code to update is identified at a central site, wherein said first authentication in said binary executable boot code in said file is updated to become said second authentication at said central site.

2. The method as recited in claim 1, wherein said binary executable boot code in each of said one or more identified terminals is updated via a network.

3. The method as recited in claim 1, wherein said binary executable boot code in each of said one or more identified terminals is updated via a storage medium.

4. The method as recited in claim 1, wherein said binary executable boot code is Basic Input/Output System binary executable code.

5. A computer program product embodied in a non-transitory computer readable medium for updating authentications in terminals from a central site, the computer program product comprising the programming instructions for:

identifying a file associated with a binary executable boot code to update at a central site, wherein said binary executable boot code in said file comprises a first authentication;

updating said first authentication in said binary executable boot code in said file to become a second authentication at said central site;

identifying one or more terminals to be updated with said updated file, wherein each of said one or more terminals comprises a flash memory configured to store said binary executable boot code comprising said first authentication; and

updating said binary executable boot code in each of said one or more identified terminals with said updated file, wherein, upon updating said binary executable boot code in each of said one or more identified terminals with said updated file, each of said one or more identified terminals stores said binary executable boot code comprising said second authentication in said flash memory.

6. The computer program product as recited in claim 5, wherein said binary executable boot code in each of said one or more identified terminals is updated via a network.

7. The computer program product as recited in claim 5, wherein said binary executable boot code in each of said one or more identified terminals is updated via a storage medium.

8. The computer program product as recited in claim 5, wherein said binary executable boot code is Basic Input/Output System binary executable code.

9. A system, comprising:

a memory unit for storing a computer program for updating authentications in terminals from a central site; and

a processor coupled to said memory unit, wherein said processor, responsive to said computer program, comprises:

circuitry for identifying a file associated with a binary executable boot code to update, wherein said binary executable boot code in said file comprises a first authentication;

circuitry for updating said first authentication in said binary executable boot code in said file to become a second authentication;

circuitry for identifying one or more terminals to be updated with said updated file, wherein each of said one or more terminals comprises a flash memory configured to store said binary executable boot code comprising said first authentication; and

circuitry for updating said binary executable boot code in each of said one or more identified terminals with said updated file, wherein, upon updating said binary executable boot code in each of said one or more identified terminals with said updated file, each of said one or more identified terminals stores said binary executable boot code comprising said second authentication in said flash memory;

wherein said file associated with said binary executable boot code to update is identified at a central site, wherein said first authentication in said binary executable boot code in said file is updated to become said second authentication at said central site.

10. A system, comprising:

a server; and

a plurality of terminals coupled to said server;

wherein said server comprises:

a memory unit for storing a computer program for updating authentications in terminals from a central site; and

a processor coupled to said memory unit, wherein said processor, responsive to said computer program, comprises:

circuitry for identifying a file associated with a binary executable boot code to update, wherein said binary executable boot code in said file comprises a first authentication;

circuitry for updating said first authentication in said binary executable boot code in said file to become a second authentication;

circuitry for identifying one or more terminals of said plurality of terminals to be updated with said updated file, wherein each of said one or more terminals of said plurality of terminals comprises a flash memory configured to store said binary executable boot code comprising said first authentication; and

circuitry for updating said binary executable boot code in each of said one or more identified terminals with said updated file, wherein, upon updating said binary executable boot code in each of said one or more identified terminals with said updated file, each of said one or more identified terminals stores said binary executable boot code comprising said second updated authentication in said flash memory;

wherein said file associated with said binary executable boot code to update is identified at a central site, wherein said first authentication in said binary executable boot code in said file is updated to become said second authentication at said central site.

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